

## **AMENDMENTS TO THE SPECIFICATION**

Please replace the following amended paragraph for paragraph [0029] on page 12 of the Application:

**[0029]** Referring to Figure 3, block 41 illustrates where a threshold  $T$  is defined for comparison against a sum of durations between zero crossing points to the threshold to determine whether a frame contains tone data. Exemplary thresholds include a threshold of one if there is no zero amplitude change and a threshold of two if there is a zero amplitude change. The zero crossing rate is then calculated according to the G.729B recommendation 42, wherein the product is calculated between each sample and the sample's next adjacent sample. The number of zero crossings may be equal to the number of negative products. Next, the method extracts duration parameters among adjacent periods between zero crossing points 44, 51. A duration is the signal period between two zero crossing points of the signal. Here, the durations between adjacent negative products of zero crossings are calculated. For tone signals which include saturated tones and modulated tones, the durations should be constant. As described herein, a sequence of durations is used to calculate the difference between a summed mean of duration periods and the duration of a single frame.

Please replace the following amended paragraph for paragraph [0030] on page 13 of the Application:

**[0030]** As stated previously, the parameters are analyzed to determine if there is a

zero amplitude change 46. If there is a zero amplitude change, a tolerance threshold is defined between duration periods [[48]]. If there is no zero amplitude change, then the signal does not contain a zero crossing point 46. At such a determination, a range of the signal 50 is defined to compare to the threshold [[50]] 41. At the next step in the process, either the duration or the range is compared with the threshold 52. The method then determines if the maximum difference between durations ( $P_{MAX} - P_{MIN}$ ) [[54]] 48,52 is greater than the threshold [[41]] 54, the frame is defined as a non-tone frame 56. In an exemplary embodiment, the maximum difference between all durations is calculated. In the modification of the G.729B algorithm shown below, the tone\_flag parameter for a non-tone frame is set to zero. However, if the maximum difference between durations 54 is not greater than a threshold, then the frame is defined as a tone frame 58. In the modification of the G.729B algorithm shown below, the tone\_flag parameter for a frame containing tone is set to one.

Please replace the following amended paragraph for paragraph [0031] on beginning on page 13 of the Application:

**[0031]** Signal periods without a zero crossing point must have a range of the period selected 50 to compare against a threshold. For example, if a low frequency signal or DC offset has no crossing points, only a range of the signal without any crossing points is compared to a threshold. In block 54, if the range of the signal without crossing points greater than a threshold [[54]], then the frame is defined as a non-tone frame 56.

However, where the range of the signal is defined as not greater than a threshold, then the frame is defined as containing tone data 58.

Please replace the following amended paragraph for paragraph [0032] on page 13 of the Application:

[0032] The following equation determines the mean difference between all durations  $m$  of a frame  $[(52)]$ , as follows:

$$\sum_{j=1}^m \left| \frac{1}{m} \sum_{i=1}^m P_i - P_j \right|$$

where  $P_i$  and  $P_j$  are adjacent zero crossing durations in the frame sequence. The sum of all mean differences are then summed for the number of durations.